REMARKS

This is a full and timely response to the outstanding Office Action mailed January 14, 2004. Upon entry of the amendments in this response, claims 1-32 remain pending. In particular, Applicants have amended claims 1-3, 15, 21, and 27. Claim 32 is newly added. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

A. Claim objection

The Office Action has objected to claim 3 because "*claim 3 recites the limitation 'said substrate' in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim.*"

Response to Objection

With reference to this Office Action objection, Applicants have currently amended claim 2 to include "a substrate," consequently providing antecedent basis for "said substrate" in claim 3.

In light of the above-mentioned amendment, Applicants respectfully assert that the Office Action objection to claim 3 is no longer valid, and request withdrawal of the objection.

B. Rejections of claims 21 and 27 under 35 U.S.C. §112

a) Statement of the rejection

The Office Action states: "*Claims 21 and 27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement,*" and further states: "*Claimed subject matter is much broader (e.g. MRI, ultrasound imaging) then only an X-ray imaging system and method disclosed in the specification.*"

b) Response to the rejection

With reference to this Office Action rejection, Applicants respectfully point out that it is improper to assert that claimed subject matter should be limited solely to the exemplary embodiment outlined in Applicant's specification. Clearly, it is permissible for claimed subject matter to encompass various other embodiments in addition to one or more that are described in the specification of a patent application.

Claim 21 pertains in part, to a system comprising "a gas detector comprising imaging volumes." Similarly, claim 27 pertains in part, to a method of "detecting ionization at respective gas volumes." It would be readily obvious that such language would be

inappropriate in systems that do not use features such as, for example, gas detectors, and ionization.

Applicants respectfully assert that the Office Action rejection of claims 21 and 27 are invalid, and consequently request withdrawal of the objection. Allowance of claims 21 and 27 is requested.

C. Rejections of claims 1-4, 9, 12, 15, 16, 27, 28-31 under 35 U.S.C. §102(e)

a) Statement of the rejection

The Office Action states: "*Claims 1-4, 9, 12, 15, 16, 27, 28-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Francke (US Patent 6,476,397 B1).*"

b) Response to the rejection

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. Accordingly, the single prior art reference must properly disclose, teach or suggest *each element* of the claimed invention. Provided below are the responses for each of the claims 1-4, 9, 12, 15, 16, 27, 28-31 that have been rejected under 35 U.S.C. §102(e).

Claim 1

In rejecting Applicants' claim 1, the Office Action states:

Francke teaches (Fig. 1) an X-ray imaging system comprising: a gas detector (9) configured to retain a volume of gas. The gas detector (9) has a first detection circuit (d2; U2; 21; 19) corresponding to a first region of the gas and a second detection circuit (d2; U2; 21; 19) corresponding to a second region of the gas, the first detection circuit being adapted to provide a first signal indicative of X-rays radiating into the first region of the gas, the second detection circuit being adapted to provide a second signal indicative of X-rays radiating into the second region of the gas, the first region of the gas being different than the second region of the gas (column 4; lines 4-47).

Attention is drawn to Francke's Abstract, which states:

*The invention comprises that (sic) the chamber is arranged such that radiation entering through the radiation entrance will firstly enter a first chamber section having a first distance (d_1) between the first and second electrode arrangements and **then** enter a second chamber section having a second distance (d_2) between the first and second electrode arrangements, the first (d_1) and the second (d_2) distances being substantially different...*
(Emphasis added)

Francke's statement above is further substantiated by his Fig. 1, which shows radiation traversing the first chamber section prior to traversing the second chamber section. Clearly, Francke's arrangement of sequential chamber sections is distinctly different from Applicants' first and second detection regions that are arranged to accept the incoming X-ray radiation concurrently in the two regions. Applicants' arrangement of detection regions is clearly illustrated in Applicant's figures (e.g. Figs. 3, 6, 7, and 8) and described in the specification accordingly. Nevertheless, Applicants have currently amended claim 1 to further clarify the limitations. Pertinent parts of this claim 1 are reproduced below for reference:

> a gas detector configured to retain a volume of gas, said gas detector having a first detection circuit corresponding to a first region of the gas and a second detection circuit corresponding to a second region of the gas, said first detection circuit being adapted to provide a first signal indicative of an intensity of a first portion of x-rays radiating into the first region of the gas, said second detection circuit being adapted to provide a second signal indicative of an intensity of a second portion of x-rays **concurrently** radiating into the second region of the gas, the first portion of x-rays being different than the second portion of x-rays.
> (Emphasis added)

Applicants respectfully assert that Francke does not disclose at least the emphasized parts of Applicants' claim 1 shown above. Consequently, the single prior art reference (Francke) does not properly disclose, teach or suggest each element of the claimed invention, as is required for a proper rejection of claim 1 under 35 U.S.C. §102(e). Applicants respectfully request withdrawal of the Office Action rejection of claim 1, and request allowance of claim 1.

Claims 2-4, 9, and 12

Applicants respectfully assert that because currently amended claim 1 is allowable, claims 2-4, 9, and 12 that depend directly or indirectly on currently amended claim 1 are also allowable as a matter of law. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988). Consequently, Applicants respectfully request that rejection of claims 2-4, 9, and 12 under 35 U.S.C. 102(e) be withdrawn, and that claims 2-4, 9, and 12 be placed in allowance.

Claim 15

In rejecting Applicants' claim 15, the Office Action states:

> *Francke shows an X-ray imaging method comprising: providing a volume of gas; defining a first region of the gas and a second region of the gas, the first region being different than the second region of the gas; generating a first signal indicative of an intensity of X-rays radiating into the first region of the gas, the first signal corresponding to at least a first pixel; and generating a second signal indicative of an*

intensity of X-rays radiating into the second region of the gas, the second signal corresponding to at least a second pixel (column 4; lines 4-47 and column 12; lines 22-29).

Attention is drawn to Francke's Abstract, which was quoted above. Francke's statement in his Abstract is further substantiated by his Fig. 1, which shows radiation traversing the first chamber section prior to traversing the second chamber section. Clearly, Francke's arrangement of sequential chamber sections is distinctly different from Applicants' first and second detection regions that are arranged to accept the incoming X-ray radiation concurrently in the two regions. Applicants' arrangement of detection regions is clearly illustrated in Applicant's figures (e.g. Figs. 3, 6, 7, and 8) and described in the specification accordingly. Nevertheless, Applicants have currently amended claim 15 to further clarify the limitations. Pertinent parts of claim 15 are reproduced below for reference:

> generating a first signal indicative of an intensity of a first portion of x-rays radiating into the first region of the gas, the first signal corresponding to at least a first pixel; and
>
> generating a second signal indicative of an intensity of a second portion of x-rays **concurrently** radiating into the second region of the gas, the second signal corresponding to at least a second pixel, wherein the first portion of x-rays is different than the second portion of x-rays.
>
> (Emphasis added)

Applicants respectfully assert that Francke does not disclose at least the emphasized parts of Applicants' claim 15 shown above. Consequently, Applicants respectfully assert that the single prior art reference (Francke) does not properly disclose, teach or suggest each element of the claimed invention, and request that the Office action rejection of claim 15 under 35 U.S.C. §102(e) be withdrawn. Thus, Applicants request allowance of claim 15.

Claim 16

Applicants respectfully assert that currently amended claim 15 is allowable. Because independent claim 15 is allowable, claim 16 that depends directly on claim 15 is also allowable as a matter of law. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988). Consequently, Applicants respectfully request that rejection of claim 16 under 35 U.S.C. 103(a) be withdrawn, and that claim 16 be placed in allowance.

Claim 27

In rejecting Applicants' claim 27, the Office Action states:

Francke shows (Figs. 1 and 7) an imaging method comprising: detecting ionization at respective gas volumes in an array of gas volumes; and converting the ionization detected into an image.

Francke's Fig. 1 shows **a** detector 9, which includes a chamber 13. This chamber is defined in Francke's col. 4, lines 41-42, as "*Chamber 13 is **a** conversion and drift **volume** and is filled with an ionizable gas*" (Emphasis added). While Francke does indicate detecting ionization in this gas using two electrode arrangements inside the detector, Applicants respectfully assert that his Fig. 1 and associated description do not teach Applicants' "*providing a gas detector comprising **an array of gas volumes**.*"

Francke's Fig. 7 shows "a device 91 according to an embodiment of the present invention having **a plurality of** the inventive **detectors** 9 stacked side-by-side of each other" (see Francke col. 12, lines 35-37). While Francke does indicate a plurality of detectors stacked side by side, Applicants respectfully assert that Francke does not at least teach "*providing a gas detector comprising **an array of gas volumes**,*"as is disclosed in Applicants' currently amended claim 27.

Furthermore, Francke does not disclose Applicants' "*detecting ionization at respective gas volumes in the array of gas volumes.*"

Consequently, Applicant respectfully asserts that the single prior art reference (Francke) does not properly disclose, teach or suggest each element of the claimed invention, and that the Office action rejection of claim 27 under 35 U.S.C. §102(e) should be withdrawn.

Applicants request allowance of claim 27.

Claims 28-31

Applicants respectfully assert that because currently amended claim 27 is allowable, claims 28-31 that depend directly or indirectly on currently amended claim 27 are also allowable as a matter of law. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988). Consequently, Applicants respectfully request that rejection of claims 28-31 under 35 U.S.C. 102(e) be withdrawn, and that claims 28-31 be placed in allowance.

D. Rejections under 35 U.S.C. §103(a)

a) Statement of the rejection

Claims 5, 10, 11, 13, 14, 18, 19, 21-23, and 29 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Francke (US Patent 6,476,397 B1) in view of McDaniel et al. (US Patent 4,780,897).

b) Response to the rejection

Claim 5

In rejecting claim 5, the Office Action states:

Francke shows all that is claimed except for a first and second gas reservoirs communicating with the chamber. McDaniel teaches an X-ray detector using two different gases (ion sources) at different pressures. Gases (e.g. Krypton and Xenon) and pressures could optimally be selected to pass higher energy X-rays an/or (sic) to allow interact (sic) with lower energy X-rays for producing desirable X-ray image (column 12; lines 15-25).

Applicants respectfully assert that the cited prior art references do not teach or suggest all limitations of Applicants' claim 5 without the use of impermissible hindsight. Furthermore, there is no suggestion or motivation, either in the cited references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or to combine the reference teachings.

For reasons similar to those set forth above with respect to the rejection of claim 1 under 35 U.S.C. 102(e), Applicants respectfully assert that Francke does not teach or suggest all the limitations of claim 5, which is dependent on claim 1.

Attention is now drawn to McDaniel's Fig. 6 and associated description. In his Col. 12, line 15, McDaniel states that "Beam 34 enters detector 20 as shown in FIG. 2." FIG. 2 clearly illustrates beam 34 entering chamber 20A prior to entering chamber 20B. Consequently, McDaniel's arrangement of sequential chamber sections is distinctly different from Applicants' first and second detection regions that are arranged to accept the incoming X-ray radiation concurrently in the two regions.

From the above-mentioned statements relating to Francke and McDaniel, it can be seen that the cited prior art references do not teach or suggest all limitations of Applicants' claim 5, without the use of impermissible hindsight.

Furthermore, Applicants respectfully re-assert that there is no suggestion or motivation, either in Francke or in McDaniel to modify either reference or modify the references to arrive at Applicants' claim 5, which is a dependent claim having all the limitations of claims 1 and 2. Unfortunately, the Office Action fails to indicate where in the cited references can be found such a teaching or suggestion.

It is consequently asserted that the Office Action fails to establish a prima facie case of obviousness as is necessary for a proper rejection under 35 U.S.C. 103(a). Applicants request withdrawal of the rejection, and a subsequent allowance of claim 5.

Claims 10, 11, 13, and 14

Claims 10, 11, 13, and 14 depend directly or indirectly on currently amended claim 1. As mentioned earlier, Applicants' claim 5 also depends on currently amended claim 1. Therefore, in the interests of brevity, the arguments that were provided for requesting allowance of claim 5, are not repeated herein. It will be understood that the validity of the arguments used for requesting allowance of claim 5 can be similarly used for arguing allowance of claims 10, 11, 13, and 14.

Consequently, Applicants respectfully assert that the cited prior art references do not teach or suggest all limitations of each of Applicants' claims 10, 11, 13, and 14 without the use of impermissible hindsight. Furthermore, there is no suggestion or motivation, either in Francke or in McDaniel to modify either reference or modify the references to arrive at each of Applicants' claims 10, 11, 13, and 14.

It is asserted that the Office Action fails to establish a prima facie case of obviousness as is necessary for a proper rejection under 35 U.S.C. 103(a). Applicants request withdrawal of the rejection, and a subsequent allowance of claims 10, 11, 13, and 14.

Claim 18

In rejecting claim 18, the Office Action states:

> *Francke shows all that is claimed except for a first and second gas reservoirs communicating with the chamber. McDaniel teaches an X-ray detector using two different gases (ion sources) at different pressures. Gases (e.g. Krypton and Xenon) and pressures could optimally be selected to pass higher energy X-rays an/or (sic) to allow interact (sic) with lower energy X-rays for producing desirable X-ray image (column 12; lines 15-25).*

Applicants respectfully assert that the cited prior art references do not teach or suggest all limitations of Applicants' claim 18 without the use of impermissible hindsight. Furthermore, there is no suggestion or motivation, either in the cited references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or to combine the reference teachings.

For reasons similar to those set forth above with respect to the rejection of claim 15 under 35 U.S.C. 102(e), Applicants respectfully assert that Francke does not teach or suggest all the limitations of claim 18, which is dependent on claim 15.

Attention is now drawn to McDaniel's Fig. 6 and associated description. In his Col. 12, line 15, McDaniel states that "Beam 34 enters detector 20 as shown in FIG. 2." FIG. 2 clearly illustrates beam 34 entering chamber 20A prior to entering chamber 20B.

Consequently, McDaniel's arrangement of sequential chamber sections is distinctly different from Applicants' first and second detection regions that are arranged to accept the incoming X-ray radiation concurrently in the two regions.

From the above-mentioned statements relating to Francke and McDaniel, it can be seen that the cited prior art references do not teach or suggest all limitations of Applicants' claim 15, without the use of impermissible hindsight .

Furthermore, Applicants respectfully re-assert that there is no suggestion or motivation, either in Francke or in McDaniel to modify either reference or modify the references to arrive at Applicants' claim 18, which is a dependent claim having all the limitations of parent claim 15. Unfortunately, the Office Action fails to indicate where in the cited references can be found such a teaching or suggestion.

It is consequently asserted that the Office Action fails to establish a prima facie case of obviousness as is necessary for a proper rejection under 35 U.S.C. 103(a). Applicants request withdrawal of the rejection, and a subsequent allowance of claim 18.

Claim 19

Claim 19 depends directly on currently amended claim 15. As mentioned earlier, Applicants' claim 18 also depends on currently amended claim 15. Therefore, in the interests of brevity, the arguments that were provided for requesting allowance of claim 18, are not repeated herein. It will be understood that the validity of the arguments used for requesting allowance of claim 18 can be similarly used for arguing allowance of claim 19.

Consequently, Applicants respectfully assert that the cited prior art references do not teach or suggest all limitations of each of Applicants' claim 19 without the use of impermissible hindsight . Furthermore, there is no suggestion or motivation, either in Francke or in McDaniel to modify either reference or modify the references to arrive at each of Applicants' claim 19.

It is consequently asserted that the Office Action fails to establish a prima facie case of obviousness as is necessary for a proper rejection under 35 U.S.C. 103(a). Applicants request withdrawal of the rejection, and a subsequent allowance of claim 19.

Claim 21

Independent claim 21 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Francke (US Patent 6,476,397 B1) in view of McDaniel et al. (US Patent 4,780,897). The Office action states that "*Francke shows (Figs. 1 and 7) an imaging system comprising: a gas distributed to define plural imaging volumes arranged in an array...*"

For reasons similar to those set forth above with respect to the rejection of claim 27 under 35 U.S.C. 102(e), Applicants respectfully assert that Francke does not teach or suggest all the limitations of claim 21. For example, Francke does not at least teach or suggest Applicants' "*a gas detector comprising imaging volumes arranged in an array.*"

Apart from Francke, McDaniel also does not teach or suggest the feature mentioned above. Consequently, the Office Action fails to meet a criteria for a proper rejection under 35 U.S.C. 103(a), namely - the prior art reference (or references when combined) must teach or suggest all the claim limitations. This is one of at least three criteria that is necessary to establish a prima facie case of obviousness.

Furthermore, MPEP 706.2(j) requires a suggestion or motivation to be present either in the reference itself or in the knowledge generally available to one of ordinary skill in the art. The cited prior art do not expressly or impliedly provide some suggestion or motivation to one of ordinary skill in the art to modify the reference, and Applicant notes with regret that the Office Action does not indicate where a teaching or suggestion of the above-quoted motivation may be found in the cited references.

Applicants respectfully assert that the Office Action has failed to establish a prima facie case of obviousness as required for a rejection of claim 21 under 35 U.S.C. 103(a). Consequently, Applicants request withdrawal of the rejection followed by allowance of claim 21.

Claims 22-23

Applicants respectfully assert that because currently amended claim 21 is allowable, claims 22-23 that depend directly on currently amended claim 21 are also allowable as a matter of law. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988). Consequently, Applicants respectfully request that rejection of claims 22-23 under 35 U.S.C. 103(a) be withdrawn, and that claims 22-23 be placed in allowance.

Claim 29

Claim 29 incorporates all the limitations of its parent claim 27. The explanation provided below will show that claim 27 is allowable, and consequently, claim 29 is also allowable.

Dependent claim 29 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Francke (US Patent 6,476,397 B1) in view of McDaniel et al. (US Patent 4,780,897). In substantiating the rejection of claim 29, the Office action states:

Francke (is) silent about an image processing system with display means. McDaniel teaches the imaging system (32) including a data acquisition system, a computer,... It would be obvious to one of ordinary skill in the art at the time invention was made to provide the detector of Francke with the image processing system of McDaniel, in order to reproduce the desirable images from digital data. (Emphasis added)

For reasons similar to those set forth above with respect to the rejection of claim 27 under 35 U.S.C. 102(e), Applicants respectfully assert that Francke does not teach or suggest all the limitations of claim 29, which is dependent on claim 27. For example, Francke does not at least teach or suggest Applicants' "*a gas detector comprising imaging volumes arranged in an array.*"

Apart from Francke, McDaniel also, does not teach or suggest the feature mentioned above. Consequently, Applicants respectfully assert that the Office Action fails to meet at least one of at three criteria that is necessary to establish a prima facie case of obviousness for a proper rejection under 35 U.S.C. 103(a), namely – "the prior art reference (or references when combined) must teach or suggest all the claim limitations."

Furthermore, MPEP 706.2(j), which provides guidelines for a rejection under 35 U.S.C. 103(a), requires a suggestion or motivation to be present either in the reference itself or in the knowledge generally available to one of ordinary skill in the art. In this case, the cited prior art do not expressly or impliedly provide some suggestion or motivation to one of ordinary skill in the art to modify the reference, and Applicant notes with regret that the Office Action does not indicate where a teaching or suggestion of the above-quoted motivation may be found in the cited references.

Applicants respectfully assert that the Office Action has failed to establish a prima facie case of obviousness as required for a rejection of claim 29 under 35 U.S.C. 103(a). Consequently, Applicants request withdrawal of the rejection, followed by allowance of claim 29.

E. Rejections under 35 U.S.C. §103(a)

a) Statement of the rejection

Claims 6-8 and 17 have been rejected "under 35 U.S.C. 103(a) as being unpatentable over Francke (US Patent 6,476,397 B1) as applied to claims 1 and 15 above, and further in view of Feige et al. (US Patent 6,204,507 B1)."

b) Response to the rejection

Claim 6

Claim 6 incorporates all the limitations of its parent claim 1. The following response will show that claim 1 is allowable, and consequently, claim 6 is also allowable. In rejecting claim 6, the Office Action states:

> *Francke shows all that is claimed except for the gas detector comprising the first region of gas defined by a first chamber and the second region of gas defined by a second chamber. Feige teaches a gas-filled ionization detector (Fig. 1) comprising a plurality of interconnected measurement chambers (3)...*

Applicants respectfully assert that the cited prior art references do not teach or suggest all limitations of Applicants' claim 1 without the use of impermissible hindsight. Furthermore, there is no suggestion or motivation, either in the cited references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or to combine the reference teachings.

The Office Action admits that Francke does not show a gas detector comprising the first region of gas defined by a first chamber and the second region of gas defined by a second chamber. Attention is now drawn to Feige, Col. 1, lines 4-10, which state:

> *The invention relates to an apparatus for checking weights per unit area during production of sheets of material by means of a source of radiation, which irradiates the sheet of material or the material being measured, and for detecting residual radiation on a side of the material being measured opposite to a radiation source using a gas-filled ionization detector.* (Emphasis added).

Feige also states in Col. 2, lines 28-29 that "*The source of radiation allocated to the sections has a linear radiation distribution,*" while in Col. 1, lines 59-62, assert a handicap in prior art radiation sources by stating that "*However, it is not achieved with this arrangement that the radiation intensity, reaching each ionization chamber is the same.*" (Emphasis added). Persons of ordinary skill in the art will recognize that Feige **teaches away** from using a radiation source having varying radiation intensities, unlike Applicants' claim 1, which does not incorporate a limitation related to "uniformity of radiation intensity". Pertinent parts of Applicants' currently amended Claim 1 is shown below for easy reference:

> *said first detection circuit being adapted to provide a first signal indicative of an intensity of a first portion of x-rays radiating into the first region of the gas, said second detection circuit being adapted to provide a second signal indicative of an intensity of a second portion of x-rays concurrently radiating into the second region of the gas...*

From the above-mentioned statements relating to Francke and Feige, it can be seen that the cited prior art references do not teach or suggest all limitations of Applicants' claim 1, without the use of impermissible hindsight .

Furthermore, Applicants respectfully re-assert that there is no suggestion or motivation, either in Francke or in Feige to modify either reference or modify the references to arrive at Applicants' claim 6, which is a dependent claim having all the limitations of claim 1. On the other hand, Feige teaches away from certain limitations of claim 1.

It is consequently asserted that the Office Action fails to establish a prima facie case of obviousness as is necessary for a proper rejection under 35 U.S.C. 103(a). Applicants request withdrawal of the rejection, and a subsequent allowance of claim 6.

Claims 7-8

Applicants respectfully assert that because claim 6 is allowable, claims 7 and 8 that depend directly on claim 6 are also allowable as a matter of law. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988). Consequently, Applicants respectfully request that rejection of claims 7 and 8 under 35 U.S.C. 103(a) be withdrawn, and that claims 7 and 8 be placed in allowance.

Claim 17

Claim 17 incorporates all the limitations of its parent claim 15. The following response will show that claim 15 is allowable, and consequently, claim 17 is also allowable. In rejecting claim 17, the Office Action asserts that:

> *Francke shows all that is claimed except for the gas detector comprising the first region of gas defined by a first chamber and the second region of gas defined by a second chamber. Feige teaches a gas-filled ionization detector (Fig. 1) comprising a plurality of interconnected measurement chambers (3)...*

Applicants respectfully assert that the cited prior art references do not teach or suggest all limitations of Applicants' claim 15 without the use of impermissible hindsight . Furthermore, there is no suggestion or motivation, either in the cited references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or to combine the reference teachings.

The Office Action admits that Francke does not show a gas detector comprising the first region of gas defined by a first chamber and the second region of gas defined by a second chamber. Attention is now drawn to Feige, Col. 1, lines 4-10, which state:

> *The invention relates to an apparatus for checking weights per unit area during production of sheets of material by means of a source of radiation, which irradiates the sheet of material or the material being measured, and for detecting residual*

radiation on a side of the material being measured opposite to a radiation source using a gas-filled ionization detector. (Emphasis added).

Feige also states in Col. 2, lines 28-29 that "*The source of radiation allocated to the sections has a linear radiation distribution,*" while in Col. 1, lines 59-62, assert a handicap in prior art radiation sources by stating that "*However, it is not achieved with this arrangement that the radiation intensity, reaching each ionization chamber is the same.*" (Emphasis added). Persons of ordinary skill in the art will recognize that Feige **teaches away** from using a radiation source having varying radiation intensities, unlike Applicants' claim 15, which does not incorporate a limitation related to uniformity of radiation intensity. Pertinent parts of Applicants' currently amended Claim 15 is shown below for easy reference:

generating a first signal indicative of an intensity of a first portion of x-rays radiating into the first region of the gas, the first signal corresponding to at least a first pixel; and
generating a second signal indicative of an intensity of a second portion of x-rays concurrently radiating into the second region of the gas, the second signal corresponding to at least a second pixel, wherein the first portion of x-rays is different than the second portion of x-rays.

From the above-mentioned statements relating to Francke and Feige, it can be seen that the cited prior art references do not teach or suggest all limitations of Applicants' claim 15, without the use of impermissible hindsight .

Furthermore, Applicants respectfully re-assert that there is no suggestion or motivation, either in Francke or in Feige to modify either reference or modify the references to arrive at Applicants' claim 6, which is a dependent claim having all the limitations of claim 15. On the other hand, Feige teaches away from certain limitations of claim 15.

It is consequently asserted that the Office Action fails to establish a prima facie case of obviousness as is necessary for a proper rejection under 35 U.S.C. 103(a). Applicants request withdrawal of the rejection, and a subsequent allowance of claim 17.

F. Rejections under 35 U.S.C. §103(a)

a) Statement of the rejection

Claims 24-26 have been rejected "*under 35 U.S.C. 103(a) as being unpatentable over Francke (US Patent 6,476,397 B1) in view of McDaniel et al. (US Patent 4,780,897) as applied to claim 21 above, and further in view of Feige et al. (US Patent 6,204,507 B1).*"

b) Response to the rejection

Claims 24-26

In rejecting claims 24-26, the Office Action asserts that Feige teaches a gas-filled ionization detector comprising a plurality of interconnected measurement chambers, and goes on to state that "*In this configuration, each of the chambers can correspond to one or more elements of an image processing system in order to achieve a good resolution.*" Unfortunately, in the present situation, and in other instances referred to below, the Office Action has substituted its own subjective judgement in place of the actual teachings of the cited prior art references. Consequently, if the proposed rejection is based on at least facts that remain within the personal knowledge of the Examiner, Applicants hereby request an affidavit from the Examiner fully supporting the statement of the rejection in the Office Action in accordance with 37 CFR § 1.104(d)(2).

The cited combination of prior art neither discloses all the elements of Applicants' independent claim 21, from which claims 24-26 depend, nor do they provide a motivation/suggestion to combine. The Office Action fails to indicate where in the cited references can be found such a teaching or suggestion.

It is consequently asserted that the Office Action fails to establish a prima facie case of obviousness as is necessary for a proper rejection under 35 U.S.C. 103(a). Applicants request withdrawal of the rejection, and a subsequent allowance of claims 24-26.

G. Rejections under 35 U.S.C. §103(a)

a) Statement of the rejection

Claims 20 and 30 have been rejected "under 35 U.S.C. 103(a) as being unpatentable over Francke (US Patent 6,476,397 B1) in view of McDaniel et al. (US Patent 4,780,897) as applied to claim 21 above, and further in view of Little et al. (US Patent 5,119,408)."

b) Response to the rejection

Claim 20

In rejecting claim 20, the Office Action asserts that Feige teaches a gas-filled ionization detector comprising a plurality of interconnected measurement chambers, and goes on to state: "*It would have been obvious to one (of) ordinary skill in the art at the time invention was made to employ the teachings of Little in order to provide dynamic X-ray images corresponding to the object with the X-ray detector of Francke combined with the imaging system of McDaniel.*" Unfortunately, it appears that the Examiner is making such an assertion based on impermissible hindsight or on his personal knowledge. The cited

combination of prior art neither discloses all the elements of Applicants' independent claim 15, from which claim 20 indirectly depends, nor do they provide a motivation/suggestion to combine. The Office Action fails to indicate where in the cited references can be found such a teaching or suggestion.

It is consequently asserted that the Office Action fails to establish a prima facie case of obviousness as is necessary for a proper rejection under 35 U.S.C. 103(a). Applicants request withdrawal of the rejection, and a subsequent allowance of claim 20.

Claim 30

In rejecting claim 30, the Office Action asserts that Feige teaches a gas-filled ionization detector comprising a plurality of interconnected measurement chambers, and goes on to state: "*It would have been obvious to one (of) ordinary skill in the art at the time invention was made to employ the teachings of Little in order to provide dynamic X-ray images corresponding to the object with the X-ray detector of Francke combined with the imaging system of McDaniel.*" Unfortunately, it appears that the Examiner is making such an assertion based on impermissible hindsight or on his personal knowledge. The cited combination of prior art neither discloses all the elements of Applicants' independent claim 27, from which claim 30 indirectly depends, nor do they provide a motivation/suggestion to combine. The Office Action fails to indicate where in the cited references can be found such a teaching or suggestion.

It is consequently asserted that the Office Action fails to establish a prima facie case of obviousness as is necessary for a proper rejection under 35 U.S.C. 103(a). Applicants request withdrawal of the rejection, and a subsequent allowance of claim 30.

Prior Art Made of Record

The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 1-32 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned representative at (770) 933-9500.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to: Assistant Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450,
on 3-24-04.

Evelyn Sanders
Signature